



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

5W

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,872	11/29/2001	Luiz B. Da Silva	IL-10888	6745

7590 11/04/2004

Eddie E. Scott
Assistant Laboratory Counsel
Lawrence Livermore National Laboratory
P.O. Box 808, L-703
Livermore, CA 94551

EXAMINER

MANTIS MERCADER, ELENI M

ART UNIT PAPER NUMBER

3737

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,872

Applicant(s)

DA SILVA ET AL.

Examiner

Eleni Mantis Mercader

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 8-11 is/are allowed.
- 6) ☒ Claim(s) 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

FINAL ACTION

Response to Arguments

1. Applicant's arguments filed on 08/02/2004 have been fully considered but they are not persuasive. With respect to the arguments regarding claim 12, the Examiner respectfully disagrees because while Boppart et al. may not teach all the elements the secondary references provide the missing elements and appropriate motivation statements were used to combine the references under a 103 rejection. Furthermore, it is unclear why claim 12 was not amended with the "consisting of" transitional phrase as the same attorney's argument would seem to be applicable for claim 12, which is similar in scope to independent claim 1. Therefore, the rejection with respect to claim 12 is maintained and made final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boppart et al.'413 in view of VonBargen'273 and Pitris et al.'087.

Boppart et al.'413 teach all the features of the instant invention including a system for characterizing tissue, comprising: a generation system that generates an optical emission signal and an optical reference signal (col. 7, lines 10-16; referring to a system that generates an

Art Unit: 3737

illumination signal to illuminate the sample and a reference signal directed to a reference mirror; also see Figure 2), a probe that directs the optical emission signal to the tissue (see probe unit 22), a transmission system that transmits the emission signal to and from the probe and that transmits said reference signal in a predetermined manner relative to the optical emission signal (col. 7, lines 16-24). The optical signals are transmitted and received through optical fibers (see col. 4, lines 55-58 and see col. 5, lines 14-16).

While Boppart et al.'413 does not explicitly state that a compensation system utilizes the reference signal to correct said emission signal, Figure 2 of Boppart et al.'413 indicates the same connections as Figure 3 of the current invention, and therefore it would have been obvious to one skilled in the art at the time that the invention was made that the reference signal is used to correct the emission and detection signals as that it is well within the knowledge of skilled artisans that reference signals are used to correct emission and/or detection signals.

In Figure 2, element 14 indicates a transmission splitter used in the same manner as in the current invention.

Optical scattering and absorption spectroscopy is performed (col. 5, lines 35-39).

Boppart et al.'413 do not explicitly teach the use of a reference optical fiber for correction of optical emission fluctuations.

In the same field of endeavor of spectrographic determinations, VonBargen'273 teaches the use of a reference fiber to correct for fluctuations of the intensity of the light source (see col. 5, lines 56-67 and col. 6, lines 1-5).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Boppart et al.'413 and incorporated the teachings of VonBargen'273 in

Art Unit: 3737

using a reference fiber in order to make accurate spectrographic measurements (see for motivation to combine in VonBargen'273, col. 8, lines 24-30, describing compensation of fluctuations and accurate measurements).

While Boppart et al.'413 teach the use of any instrument of choice including a needle (col. 2, lines 28-39), they do not explicitly teach the use a fiber optic needle capable of emission and transmission of the light signal in use with the OCT system to characterize the tissue.

Pitris et al.'087 explicitly teach the use of a fiber optic needle capable of emission and transmission of the light signal in use with the OCT system to characterize the tissue (col. 2, lines 5-40).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Boppart et al.'413 in view of VonBargen'273 and incorporated the teaching of Pitris et al.'087 in order to use a fiber optic needle as the instrument of choice to characterize tissue in areas which are not accessible through a lumen with instruments such as a catheter or endoscope (see for motivation to combine in Pitris et al.'087, lines 5-17).

Allowable Subject Matter

4. Claims 1-3 and 8-11 are allowed.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

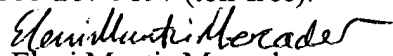
Art Unit: 3737

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni Mantis Mercader whose telephone number is 703 308-0899. The examiner can normally be reached on Mon. - Fri., 8:00 a.m.-6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (703) 308-3552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Eleni Mantis Mercader
Primary Examiner
Art Unit 3737

EMM